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09/400,986	09/22/1999	MOTOYOSHI MURAKAMI	00177/530155	4038

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EXAMINER

TRAN, TONGOC

ART UNIT

PAPER NUMBER

2134

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6

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/400,986

Applicant(s)

MURAKAMI ET AL.

Examiner

Tongoc Tran

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) 47-50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5 6) ☐ Other:

### **DETAILED ACTION**

1. This office action is in response to Applicants' application serial no. 09/400,986 filed on 9/22/1999.

#### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/400,986, filed on 9/22/1999.

#### ***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Fig. 7, item 350a is identified as 530a in the specification. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### ***Specification***

4. The disclosure is objected to because of the following informalities: The term "PE-RZ" is identified as "PE-RZ decoder" on page 8, line 8 and "PE-RZ demodulator" on page 40, line 5.

Appropriate correction is required.

***Claim Objections***

5. In claim 47-49, the term "PE-RZ" appears to be a trademarks and it is unclear from the claim language what the term is technologically defined.

Claim 50 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim recites the limitation from previous claim.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 recites the limitation "said barcode portions" and "said non-barcode" in page 74, lines 23 and 25. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 1-2, 5-8, 10-12, 22-24, 26-29, 31, 36, 42 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Maeda et al. (U.S. Patent No. 5,764,607).

9. In respect to claims 1, 22, 27, 36 and 39, Maeda discloses an information recording and reproduction method and apparatus uses a recording medium that contains information which prohibits digital copying (see title and abstract), said comprising:

“A first recording area for recording contents data and data for recording and reproducing the contents data (see Fig. 7, item 100c, col. 1, lines 38-42); and

a second recording area for recording secondary data on the contents recorded in the first recording area (see Fig. 7, item 100b, col. 1, lines 42-45, Table of Content (TOC))

wherein said second recording area comprising:

a first section for recording control data on the second recording area (see col. 1, lines 45-48, music information, track and sector);

a second section for recording data not to be inhibited to be outputted from a recording and reproducing apparatus for the optical disk (see col. 1, lines 48-49, information of permit digital copy); and

a third section for recording data to be inhibited to be outputted from the recording and reproducing apparatus for the optical disk (see col. 1, lines 48-49, information to prohibit digital copy;

wherein the control data recording in the first section includes an identifier which shows whether said second recording area includes said third section or not" (see Fig. 1, lines 54-57, subcode).

10. In respect to claim 2-5, 7-8 and 10 and 31, Maeda discloses all the limitations as applied to claim 1 above. Maeda further discloses:

"data recorded in second recording area are strip marks longer in radial direction and cannot be overwritten after they are written once" (Fig. 7, item 100B, stripe mark);

"data for recording and reproducing the contents data in said first recording area include an identifier which shows whether information is recorded in said second recording area" (see col. 1, lines 54-57 subcode);

"identifier which shows whether information is recorded in said second recording area is recorded in said first section in said second recording area" (see col. 1, lines 54-56 subcode);

"data for recording and reproducing the contents data in said first recording area include an identifier which shows whether information is recorded additionally in said

second recording area and an amount of recorded data in said second recording data”  
(col. 1, lines 38-56);

“disk identifier different for each optical disk is recorded in said second recording area” (col. 6, lines 6-13);

“said second recording area is provided at a predetermined area in an inner peripheral section” (col. 4, lines 35-41);

“said recording area is an area to which information can be written (Fig. 7, item 100c, col. 1, lines 38-42);

11. In respect to claims 11-12 and 16, Maeda discloses all the limitations as applied to claims 10 further discloses: “said recording area has said recording layer to which data can be recorded with an optical device (col. 4, lines 59-65);

“said first recording area has said recording layer to which data can be recorded with an optical device a plurality of times”, “said recording layer comprises a plurality of layered magnetic films” (col. 1, lines 65-67, magneto-optical disk).

Said recording layer comprises a plurality of layered magnetic films (see col. 1, lines 65-67, magneto-optical disk).

12. In respect to claims 23-24 and 26-28, Maeda discloses all the limitations of claim 22 and further discloses:

“said first recording area according to reproduction conditions included in the data to be inhibited to be outputted when the data reproduced from said second recording area are determined to include the data to be inhibited to be outputted (see Fig. 6, item s34, col. 1, lines 48-49);

"reproducing data from said first recording area (see Fig. 7, item 100c, col. 1, lines 38-42); and "detecting an identifier which show whether data exist in said second recording area, in the data reproduced from said first recording area wherein said step of reproducing data from said second reproducing area is performed only the identifier is detected"(see Fig. 6, item s34, col. 1, lines 42-57).

"said second reproducing section reproduces data in the second recording area according to a detection data in the second recording data according to a detection signal received by a photodetector provided in said optical head (see col. 6, lines 1-14).

13. In respect to claim 42, Maeda discloses all the limitations as applied to claim 39, further discloses:

"a frequency converter which converts reproduced signals from the first recording area from time axis signals to frequency axis signals to provide first conversion signals (see col. 5, lines 36-43);

a mixer which adds or superposes the first conversion signals reproduced from the second recording area to provide mixed signals (see col. 5, lines 28-42);

a reverse frequency axis signals to time axis signals to provide second conversion signals (see col. 28-42).

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the



Art Unit: 2134

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 17, 40-41, 44-45 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (U.S. Patent No. 5,764,607).

15. In respect to claim 17, Maeda discloses all the limitation of claim 10 but does not explicitly disclose said recording layer comprises a recording layer made of Ge-Sb-Te alloy. However, Ge-Sb-Te is a widely used thin film material for optical disk. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the thin film material of Ge-Sb-Te for its durability.

16. In respect to claim 49, Maeda discloses:

“a reproducing apparatus for reproducing contents from an optical disk having at least a recording layer for recording information, said recording layer disk comprising a first recording area for recording contents data and data for recording and reproducing the contents data, and a second recording area for recording secondary data on the contents recorded in the first recording area, the secondary data including a disk identification inherent to each optical disk (see Fig. 7, items 100b and 100c and col. 1, lines 38-58) the apparatus comprising:

an optical head which reproduces information from the optical disk with an optical spot (see col. 4, lines 59-64);

a first reproducing section which reproduces data with said optical head from the first recording area (see col. 6, lines 1-14); and

a second reproducing section which reproduces data with said optical head from the second recording area” (see col. 6, lines 1-14); Furthermore, Maeda discloses the device utilize demodulation and decoder in the reproducing process but does not

Art Unit: 2134

explicitly discloses cut-off frequency at 1.2 MHz. However, using the maximum of frequency at 1.2 MHz is widely used in optical disk reproduction. It would have been obvious to one of ordinary skill in the art at the time the invention was made to control the frequency component at 1.2 MHz for more efficiency.

17. In respect to claims 40-41, 44-45, Daeda discloses all the limitation of claims 39 and 43. Maeda does not teaches the use of watermarks generated by using disk identification recorded in recording area.

However, using watermark to record data is old and well known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement this feature for a more secure illegal copy prevention since image of protected data is embedded into the optical disk.

18. Claims 6, 9, 25, 30, 32-35, 38, 43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (U.S. Patent No. 5,764,607) and Sako et al. (U.S. Patent No. 5,802,174).

19. In respect to claims 6, Maeda discloses all the limitations as applied to claim 1. Maeda does not discloses "ciphered data are recorded in said third section in said second recording data". However, Sako teaches said limitation (see col. 3, lines 4-12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the ciphered data as taught by Sako to provide a secure data protection to prevent illegal copy.

20. In respect to claim 9, Maeda discloses all the limitations as applied to claim 1. Maeda does not explicitly discloses data are recording said first recording area in the

Art Unit: 2134

recording layer by generating uneven pits in a reflection film, and data are recorded by removing the reflection film partially as stripe marks longer in the radial direction".

However, Sako teaches said limitations (see col. 4, lines 12-22, pit type recording). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the recording area in a pit type recording as taught by Sako so that duplication of the data is better protected.

21. In respect to claims 25 and 30-34 and 37, Maeda discloses all the limitations as applied to claim 22. However, Maeda does not disclose after determine the data is not inhibited, the data is deciphered and decoded. However, Sako teaches said features (see col. 3, lines 18-21). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a deciphered device to deciphered data taught by Sako to better secure data from illegal recording.

22. In respect to claim 34 and 37 Maeda discloses all the limitation as applied to claim 27. Maeda does not explicitly disclose using a cipher decoder to cipher data in first and second recording layer but Sako teaches said limitations. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a ciphered coder to cipher data taught by Sako to better secure data from illegal recording.

In addition, Maeda does not teach the use of authentication before data are deciphered. However, verifying passwords before data is deciphered is old and well known. It would have been obvious to one of ordinary skill in the art at the time the

invention was made to provide authentication to better ensure that the disk is authorized to be duplicated by the rightful owner.

23. In respect to claims 35 and 38, Maeda disclose all the limitation as applied to claim 27 and further discloses a transmission section which transmit ciphered data to an external apparatus (see Fig. 1a-2 item 13).

24. In respect to claims 43 and 46, Maeda discloses a recording and reproducing apparatus for recording and reproducing contents from an optical disk "an optical head which reproduces information from the optical disk with an optical spot" (Fig. 1a-1, item 3, col. 4, lines 59-63), "having at least a recording layer for recording information, said recording layer disk comprising a first recording area for recording contents data and data for recording area for recording area for recording secondary data on the contents recorded in the first recording area (see Fig. 7, items 100b and 100c, col. 1, lines 38-57). Maeda does not disclose but Sako discloses said apparatus comprising:

a cipher device which ciphers the contents based on data including information inherent to a disk, the information having been recorded in the second recording area (see Fig. 1 and 3);

a recording section which records the contents ciphered by said cipher device in the first recording area in the optical disk (see Fig. 3, item s4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a cipher device to enciphered data taught in the recording optical layer taught by to secure data from illegal recording.

Art Unit: 2134

25. In respect to claims 47-48, Maeda and Sako discloses all the limitations as applied to claim 46. Furthermore, Maeda discloses the device utilize demodulation and decoder in the reproducing process but does not explicitly discloses cut-off frequency at 1.2 MHz. However, using the maximum of frequency at 1.2 MHz is widely used in optical disk reproduction. It would have been obvious to one of ordinary skill in the art at the time the invention was made to control the frequency component at 1.2 MHz for more efficiency.

26. Claims 13-14, 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. (U.S. Patent No. 5,764,607) and Taki et al. (U.S. Patent No. 5,089,358).

27. In respect to claims 13 and 18, Maeda discloses the limitations as applied to claim 10 above. Maeda does not explicitly discloses:

“said recording layer comprises an organic layer changeable between two states detectable optically (col. 13, lines 57-63);

“said recording layer comprises a film changeable reversibly between two optically detectable states, an amount of reflection light from said first recording area is different from said second recording area” (col. 13, lines 57-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the changeable between two optically detectable states taught by Taki for the benefit of improving the memory capacity of the optical disk.

Art Unit: 2134

28. In respect to claims 14, Maeda discloses an optical disk as applied in claim 12. Maeda does not explicitly disclose "said recording layer comprises a magnetic layer having perpendicular magnetic anisotropy in a film normal direction". However, Taki teaches the said limitation (see col. 21, lines 20-30). It would have been obvious to one of ordinary skill in the art at the time the invention was implemented a magnetic layer having perpendicular magnetic anisotropy taught by Taki in order to obtain a more stable recording characteristic because of uniform thickness and flat surface and thus improve optical recording.

29. In respect to claim 19, Maeda and Saki disclose an optical disk with all the limitations as applied to claim 18. Saki further discloses "said recording layer is changeable reversibly between crystalline and amorphous states according to conditions of a light for illuminating said recording layer" (see col. 13, lines 57-62).

30. In respect to claim 20-21, Maeda and Saki disclose an optical disk with all the limitations as applied to claim 19. However, Both Maeda and Saki do not explicitly teach the use of barcode in the recording layer.

However, recording barcode in recording layer in optical disk is old and well known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize barcode as identification for optical disk to distinguish each disk from one another.

### ***Conclusion***

Art Unit: 2134

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tongoc Tran whose telephone number is (703) 305-7690. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A. Morse can be reached on (703) 308-4789. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7240 for regular communications and (703) 746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-9600.

Examine Tongoc Tran  
Art Unit : 2134

TT  
August 11, 2003

*Matthew D. Smithers*  
**MATTHEW SMITHERS**  
**PRIMARY EXAMINER**  
*Art Unit 2134*